## **ENGINEER CERTIFICATION**

I. Ted Tucker, do hereby certify that I personally prepared the foregoing technical analysis for KFMR and that I am qualified to do so.

My qualification as an FM engineer are a matter of record with the Commission. I have personally prepared and submitted nearly 100 applications, amendments, petitions, rulemaking proceedings, comments, replies, Special Temporary Authorizations, and other filings including domestic and international short spacing studies. I have personally installed and constructed numerous FM Stations, FM Translator Stations, Studio Transmitter Links, Low Power Televisions Stations and auxiliary transmitters. Many of these installations involved directional antenna systems.

I hold a valid General Class Radio Telephone License (formerly First Class) and have a Bachelor of Science degree from the University of Arizona.

Date: AUGUST 23, 1999 By: Ducker Ted Tucker

# TECHNICAL ANALYSIS KFMR CITY OF LICENSE CHANGE

Desert West Air Ranchers Corporation ("Desert"), permittee of FM Station KFMR, Winslow, Arizona, proposes to change the Community of License of FM Station KFMR from Winslow, Arizona to Sun City West, Arizona. The class and channel of operation would remain unchanged as a Class C facility on Channel 236. The proposed reference point for KFMR Channel 236C at Sun City West is fully spaced to all allocations and facilities except the unused Class C allocation at Yuma, Arizona whose reference point can be moved. The following is the technical analysis for the proposal.

#### 1. KFMR AT CAMP VERDE

Desert had originally asked to the Commission to change the KFMR community of license from Winslow to Camp Verde using its existing site at Mormon Mountain. Due to the significant amount multipath interference throughout the Station's service area from that site, Desert has conducted an engineering analysis of the entire area. Such analysis revealed that there were no other sites suitable to Desert to serve Camp Verde. Therefore, Desert is asking the Commission to consider its instant request to allow for greater latitude in site selection.

### 2. KFMR AT SUN CITY WEST

KFMR is currently licensed to Winslow, Arizona as a Class C FM on Channel 236C from the Mormon Mountain Electronic Site near Flagstaff, Arizona. Desert proposes to change the KFMR Community of License to Sun City West, Arizona at the special reference point coordinates of:

34-16-35 N 112-07-30 W

Attached as <u>EXHIBIT E1</u> is a channel spacing study showing the proposed KFMR special reference point for KFMR as a Class C FM at Sun City West, Arizona. The study shows that the proposal is fully spaced to all allocations and facilities except the unused Class C allocation at Yuma, Arizona. The allocation at Yuma will be discussed in the next section.

Attached as <u>EXHIBIT E2</u> is the principal community and service contour calculations for KFMR operating at maximum Class C facilities of 100 KW at 600 meters from the special reference point. Included is a special 197 degree radial which transects the proposed community of license, Sun City West.

Attached as <u>EXHIBIT E3</u> is the principal community and service contour map of KFMR operating at the maximum Class C facilities of 100 KW at 600 meters from the special reference point. The map shows that such a facility produces a city grade contour (70 dBu) over Sun City West. The point on the map depicting Sun City West is located at the southernmost point of the community. The map also contains shadowing information which shows that the facility has line of sight over the entire community of Sun City West. It should be noted that facilities less than maximum can also provide city service to the community.

Attached as <u>EXHIBIT E4</u> is a gain/loss map showing the proposed 60 dBu coverage area of KFMR at Sun City West and the currently authorized 60 dBu coverage area of KFMR at Winslow, Arizona. The 1990 population within the proposed coverage area of KFMR at Sun City West is 1,534,453 persons. The 1990 population within the currently authorized coverage area of KFMR at Winslow, Arizona is 127,723 persons.

Attached as <u>EXHIBIT E5</u> is a coverage map showing the remaining FM signals serving Winslow, Arizona and the loss area. There are also numerous AM stations including KINO, Winslow which service the area. KFMR operates at Mormon Mountain at a Class C FM. The are five other Class C FM stations, other than KFMR, operating at essentially the same with the same coverage as KFMR. They are: (1) KAFF FM, Flagstaff, Arizona; (2) KQST FM, Sedona, Arizona; (3) KVNA FM, Flagstaff, Arizona; (4) KMGN FM, Flagstaff, Arizona; and (5) KSED FM, Sedona, Arizona.

## 3. YUMA ALLOCATION

The KFMR proposal at Sun City West is short spaced to channel 236 Class C reserved for FM Station KTTI, Yuma, Arizona. Channel 236C was allotted to Yuma and reserved for KTTI's use in Docket 90-19 nearly 9 years ago. The current reference point for this allocation is:

#### 32-40-22 N 114-20-13 W

The KTTI licensee at the time filed an application (File No. BPH-910910IH) which was granted that allowed KTTI to upgrade from 236C3 to 236C at the Bureau of Land Management site near Telegraph Pass. On August 6, 1996 the Commission canceled the authorization due to the licensee's failure to construct the station. The Class C allotment since has lain fallow for over three years. KTTI is currently operating as a Class C3. Desert realizes that KTTI has changed hands since that time and furthermore, Desert does not wish to preclude or hamper the current owners from upgrading KTTI.

However, in order to make way for a new First Local Service at Sun City West, Desert is requesting that the allocation reference point for the class C channel reserved for KTTI be moved to:

#### 32-22-00 N 114-21-00 W

This move will not preclude KTTI from upgrading its facility to any class it desires including a Class C station as the following exhibits shall demonstrate. The previous KTTI construction permit for Class C operation (File No.BPH-910910IH) proposed facilities closely resembling Class C1 operation. This illustrates that full Class C operation may not even be possible, practical nor desirable from that site.

Attached as EXHIBIT E6 is a channel spacing study showing that KTTI could upgrade to a Class

C from the new Class C reference point proposed by Desert, located south of Yuma, without regard to the KFMR proposal.

Attached as <u>EXHIBIT E7A</u> is a channel spacing study showing that KTTI could upgrade to a Class C1 from its current Class C <u>reference point</u> without regard to the KFMR proposal. And attached as <u>EXHIBIT E7B</u> is a channel spacing study showing that KTTI could upgrade to a Class C1 from its current <u>operating site</u> under the United States-Mexican FM Broadcasting Agreement without regard to the KFMR proposal.

Attached as <u>EXHIBIT E7C</u> is a contour map showing that KTTI could operate as a full Class C1 from its existing site with respect to the Class B allocation at Tecate, Mexico.

Attached as <u>EXHIBIT E8A</u> is a channel spacing study showing that KTTI could upgrade to a Class C2 from its current Class C <u>reference point</u> without regard to the KFMR proposal. And attached as <u>EXHIBIT E8B</u> is a channel spacing study showing that KTTI could upgrade to a Class C2 from its current <u>operating site</u> without regard to the KFMR proposal.

Attached as <u>EXHIBIT E9</u> is a gain/loss map for KTTI for full Class C operation from its current reference point and the proposed reference point. The population within the 60 dBu contour of KTTI at its current Class C reference point with maximum facilities is 110,648 persons as compared to 109,122 person within the 60 dBu contour of KTTI at the proposed Class C reference point with maximum facilities.

Attached as <u>EXHIBIT E10</u> is a channel spacing study showing that KTTI could upgrade to a Class C from its current Class C reference point utilizing 73.215 spacing with regard to the KFMR proposal. The previous KTTI construction permit for Class C operation (File No.BPH-910910IH) proposed facilities much less than full Class C facilities which more closely resembled Class C1 operation. Again, this illustrates that full Class C operation may not even be possible, practical nor desirable from that site. In addition, the area in the direction of the protected spacing is almost completely barren desert.

#### 4. ALTERNATIVE PROPOSAL

In the event that the Commission finds that it is not inclined to change the reference point of the current Yuma Class C allocation, then Desert is alternatively proposing that KFMR change its community of license to Mayer, Arizona without change of class or channel. The allotment of Channel 236 as a Class C at Mayer, Arizona would be from a fully spaced reference point which can provide both city grade coverage and line of sight over Mayer. The special reference point coordinates are:

#### 34-25-00 N 112-00-30 W

Attached as <u>EXHIBIT E11</u> is a channel spacing study showing the proposed KFMR special reference point for KFMR as a Class C FM at Mayer, Arizona. The study shows that the proposal is fully spaced to all allocations and facilities without exception.

Attached as <u>EXHIBIT E12</u> is the principle community and service contour calculations for KFMR operating at the maximum Class C facilities of 100 KW at 600 meters from the special reference point. Included is a special 265 degree radial which transects the proposed community

of license, Mayer.

Attached as <u>EXHIBIT E13</u> is the principle community and service contour map of KFMR operating at maximum Class C facilities of 100 KW at 600 meters from the special reference point. The map shows that such a facility clearly produces a city grade contour (70 dBu) over Mayer. The map also contains shadowing information which shows that the facility has line of sight over the entire community of Mayer.

Attached as <u>EXHIBIT E14</u> is a gain/loss map showing the proposed coverage area of KFMR at Mayer and the currently authorized coverage area of KFMR at Winslow, Arizona. The 1990 population within the proposed coverage area of KFMR at Mayer is 663,412 persons. The 1990 population within the currently authorized coverage area of KFMR at Winslow, Arizona is 127,723 persons. The stations which will continue to provide service to the loss area have previously been discussed.

Note: All exhibits, contours, spacing studies and population estimates were prepared in accordance with FCC rules and regulations using RadioSoft FMR software and SoftWright Terrain Analysis Package software.

MAPFM search of channel 236C (95.1 MHz), at N. 34 16 35, W. 112 7 30.

SUN CITY WEST, ARIZONA CLASS C REFERENCE POINT CLASS C OPERATION

Searching Channel 236C (95.1 MF	Hz):		
CALL CITY ALC Phoenix KOOLFM Phoenix ALC Tucson K235AI Mayer KMXZFM Tucson FA Winslow KTTI Yuma ALC Winslow KFMR Winslow ALC Yuma KFMR Camp Verde K237AU Prescott	ST CHN CL S DIST	SEPN BRNG	
ALC Phoenix	AZ 233 C U 104.7	105.0 176.8°	
KOOLFM Phoenix	AZ 233 C L 104.7	105.0 176.8°	
ALC Tucson	AZ 235 C U 243.7	241.0 157.3°	2.7
K235AI Mayer	AZ 235 D C 22.8	0.0 258.1°	
KMXZFM Tucson	AZ 235 C L 243.7	241.0 157.3°	
FA Winslow	AZ 236 C D 154.9	290.0 57.6°	
KTTI Yuma	AZ 236 C3 L 291.8	237.0 233.5°	
ALC Winslow	AZ 236 C U 154.9	290.0 57.6°	-135.1
KFMR Winslow	AZ 236 C C 95.4	290.0 36.4°	
ALC Yuma	AZ 236 C U 271.9	290.0 229.1°	-18.1
KFMR Camp Verde	AZ 236 C A 95.3	290.0 36.4°	
K237AU Prescott	AZ 237 D L 44.7	0.0 301.2	
K237AU Prescott KYOTFM Phoenix ALC Phoenix	AZ 238 C L 104.6		
ALC Phoenix	AZ 238 C U 104.6	105.0 176.7°	
ALC Cottonwood	AZ 289 C3 U 45.6		
KVRDFM Cottonwood	AZ 289 C3 L 45.5	31.0 1.0°	
KVRDFM Cottonwood KHOTFM Paradise Valley	AZ 290 C2 C 83.5	35.0 156.2°	
ALC Paradise Valley	AZ 290 C2 U 73.3		
KHOTFM Paradise Valley	AZ 290 C3 L 83.5	31.0 156.2°	52.5
NEW CLASS C REFERENCE POINT			
	AZ 236 C 296.2	290.0 224.4°	6.2 CLEAR
ALC Tama	230 0 250.2	250.0 224.4	O.Z CDDAK
KTTI AS CLASS C1 FROM EXISTING	CLASS C REFERENCE	POINT	
KTTI Yuma	AZ 236 C1 271.8	270.0 229.1°	1.8 CLEAR
KTTI AS CLASS C2 FROM EXISTING	CLASS C REFERENCE	POINT	
KTTI Yuma	AZ 236 C2 271.8	249.0 229.1°	22.8 CLEAR
	22 22 27-10	= = = · · · · · ·	== • • -==

COMPUTED DISTANCE TO CONTOURS (PART 73)

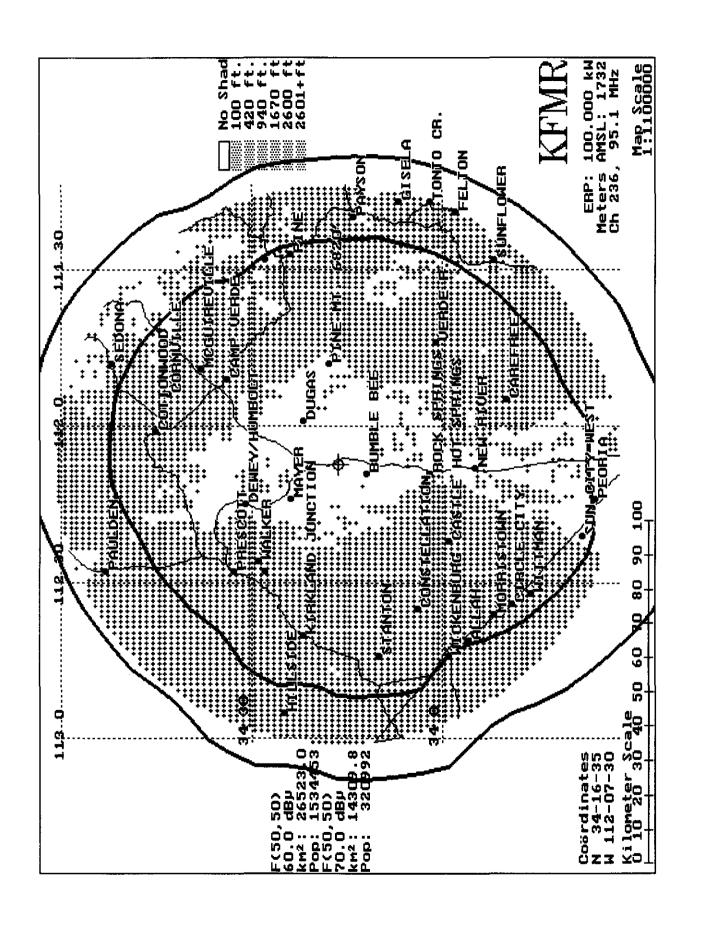
## SUN CITY WEST, ARIZONA CLASS C REFERENCE POINT

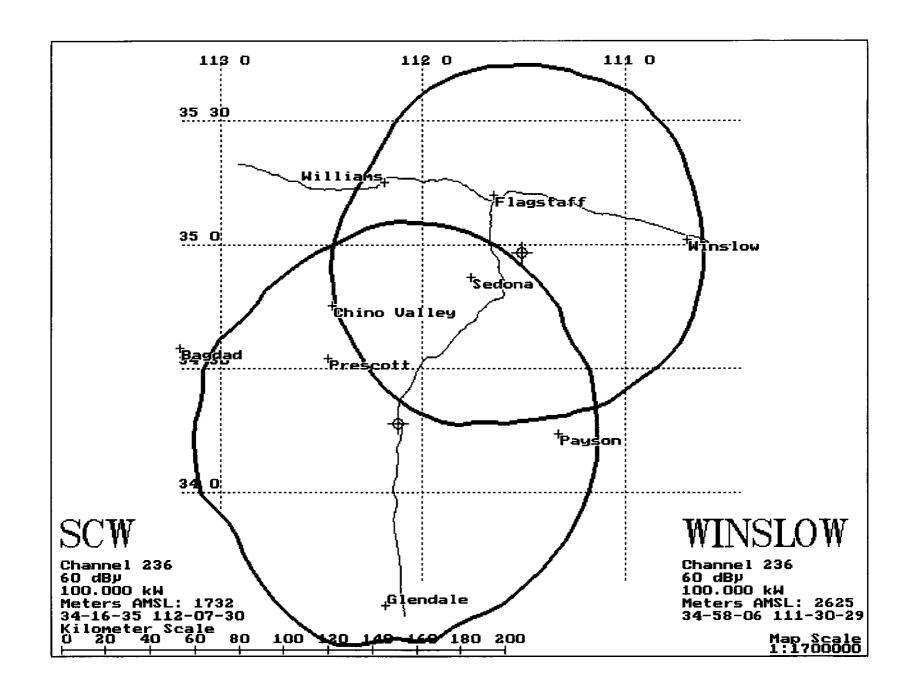
Transmitter Latitude: 34:16:35.0N Longitude: 112:07:30.0W Transmitter center of radiation: 1732.0 m AMSL ( 622.00 m AGL)

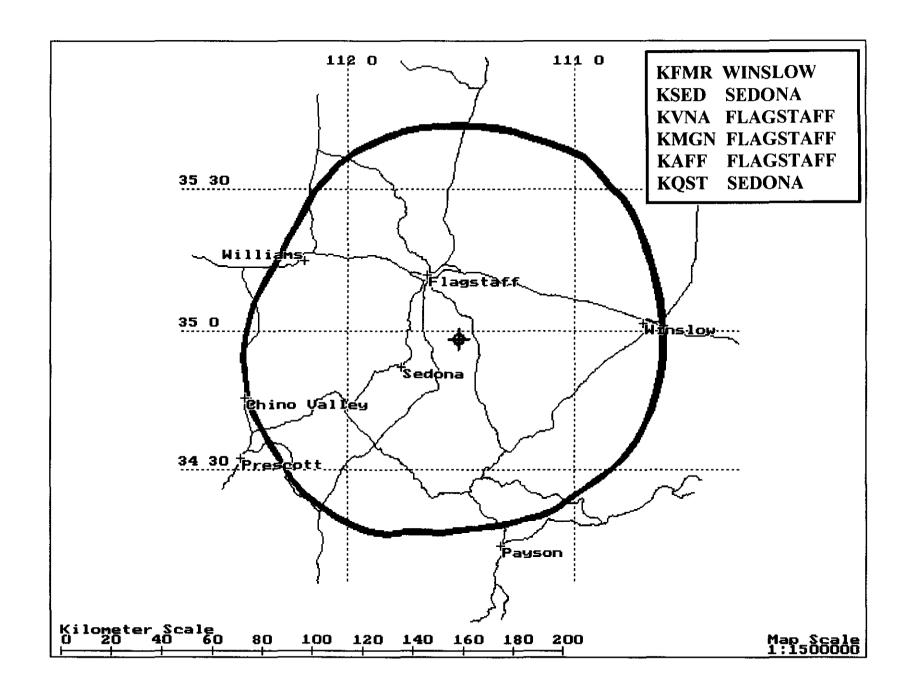
Power: 100.000 kW Channel 236

		Horizontal			f(50,50)	f(50,50)
Azimuth	TAAH	Relative	Equiv	Rough	60.0 dBu	70.0 dBu
(Deg T)	(m )	Field	Power	Correct	(km)	(km)
.00	568.25	1.000	100.000	000.	90.53	66.30
45.00	566.24	1.000	100.000	000.	90.44	66.20
90.00	569.75	1.000	100.000	000.	90.60	66.37
135.00	624.33	1.000	100.000	000.	92.74	68.61
180.00	756.25	1.000	100.000	.000	97.87	73.34
197.00	915.06	1.000	100.000	.000	103.58	77.73
225.00	641.05	1.000	100.000	000.	93.38	69.24
270.00	604.28	1.000	100.000	000.	91.98	67.84
315.00	468.32	1.000	100.000	.000	84.72	60.17

599.81 m Cardinal Average







MAPFM search of channel 236C (95.1 MHz), at N. 32 22 0, W. 114 21 0.

YUMA, ARIZONA NEW CLASS C REFERENCE POINT CLASS C OPERATION

Search CALL ALC KWST ALC KBZT ALC ALC KMXZFM KTTI KFRG ALC ALC	Yuma San Bernardino Yuma San Bernardino	(95.1	ST CA CA BN CA AZ AZ AZ CA AZ	CHN 233 234 235 235 235 236 236 236	BBBBCCC3BCB	U L U U L L U	121.8 155.7 277.1 277.1 304.8 304.8 47.5 340.6 340.6	105.0 105.0 98.0 217.0 217.0 241.0	92.5° 92.5° 323.7° 306.6° 2.1° 306.6°	16.8 16.8 57.7 60.1 60.1 63.8 63.8 -189.5 66.6 -256.0 66.6	RANCE
ALC	San Quintin		BN	236	В		270.8	270.0	215.4°	0.8	
ALC ALC	Tecate Caborca			237 237				215.0 228.0		1.5 50.5	
ALC ALC	San Felipe Sonoita			238 239			155.7 165.8	98.0 94.0	197.1° 109.2°	57.7 71.8	
	—		.5 5							, 110	
PRORM	Sun City West		AZ	236	C		296.2	290.0	$44.4^{\circ}$	6.2	CLEAR

# **EXHIBIT E7A**

MAPFM search of channel 236C1 (95.1 MHz), at N. 32 40 22, W. 114 20 13.

## YUMA, ARIZONA EXISTING CLASS C REFERENCE POINT CLASS C1 OPERATION

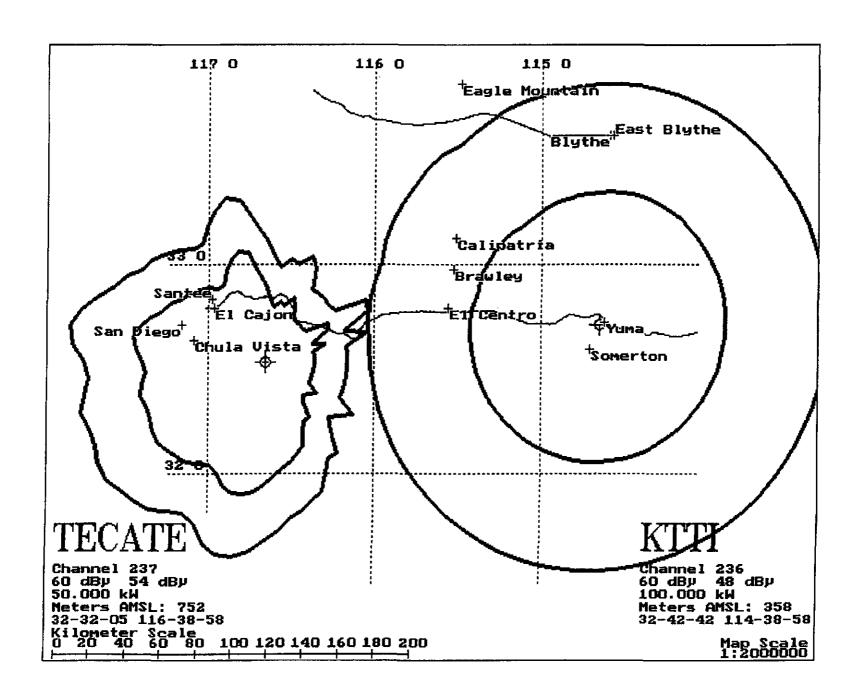
Search	ing Channel 236C1	(95.1	MHz	):							
$\mathtt{CALL}$	CITY		st	CHN	CL	S	DIST	SEPN	BRNG	CLEA	RANCE
ALC	Brawley		CA	233	В	U	113.6	79.0	277.6°	34.6	
KWST	Brawley		CA	233	В	L	113.6	79.0	277.6°	34.6	
KBZT	San Diego		CA	235	В	L	273.5	195.0	273.9°	78.5	
ALC	San Diego		CA	235	В	U	273.5	195.0	273.9°	78.5	
KTTI	Yuma		AZ	236	C3	L	29.6	211.0	278.4°	-181.4	
KFRG	San Bernardino		CA	236	В	L	322.2	270.0	301.7°	52.2	
ALC	Yuma		AZ	236	C	U	0.0	270.0	0.0°	-270.0	
ALC	San Bernardino		CA	236	В	U	322.2	270.0	301.7°	52.2	
ALC	San Quintin		BN	236	В		299.8	270.0	211.9°	29.8	
ALC	Tecate		BN	237	В		217.1	195.0	266.6°	22.1	
DDODM	Com Citor Weat		7.17	226	~		271 0	270 0	40 10	1 0	
PRORM	Sun City West		AZ	236	Ü		∠/1.8	270.0	49.1°	1.8	CLEAR

# EXHIBIT E7B

MAPFM search of channel 236C1 (95.1 MHz), at N. 32 42 42, W. 114 38 58.

YUMA, ARIZONA KTTI EXISTING OPERATING SITE CLASS C1 OPERATION

Search:	ing Channel 236C1	(95.1	MHz	), f:	rom	tŀ	ne site	e of KI	TI:		
CALL	CITY		st	CHN	$\mathtt{CL}$	S	DIST	SEPN	BRNG	CLEARANCE	
ALC	Brawley		CA	233	В	Ų	84.0	79.0	277.3°	5.0	
KWST	Brawley		CA	233	В	$\mathbf{L}$	84.0	79.0	277.3°	5.0	
KBZT	San Diego		CA	235	В	$\Gamma$	244.0	195.0	273.3°	49.0	
ALC	San Diego		CA	235	В	U	244.0	195.0	273.3°	49.0	
KTTI	Yuma		AZ	236	C3	L	0.0	211.0	0.0°	-211.0	
KFRG	San Bernardino		CA	236				270.0			
ALC	Yuma		AZ	236	С	U	29.6	270.0	98.4°	-240.4	
ALC	San Bernardino		CA	236	В	U	295.4	270.0	303.9°	25.4	
ALC	San Quintin		BN	236	B		289.4	270.0	206.3°	19.4	
ALC	Tecate		BN	237	В		188.3	195.0	$264.5^{\circ}$	-6.7	
ALC	Mexicali		BN	290	Α		75.1	21.0	266.4°	54.1	
XHSUFM	Mexicali		BN	290	Α		75.1	21.0	266.4°	54.1	
PROR <b>M</b>	Sun City West		ΑZ	236	С		291.8	270.0	53.5°	21.8 CLEAR	



# EXHIBIT E8A

MAPFM search of channel 236C2 (95.1 MHz), at N. 32 40 22, W. 114 20 13.

YUMA, ARIZONA EXISTING CLASS C REFERENCE POINT CLASS C2 OPERATION

Search	ing	Channel	236C2	(95.1	MHz)	:
CATT	CTT	ייעד			СT	(1)

DCGT CII.	1119 0114111101 23002	(22.7 11112	, •						
CALL	CITY	ST	CHN	CL	S	DIST	SEPN	BRNG	CLEARANCE
ALC	Brawley	CA	233	В	Ū	113.6	74.0	277.6°	39.6
KWST	Brawley	CA	233	В	L	113.6	74.0	277.6°	39.6
KTTI	Yuma	AZ	236	C3	L	29.6	177.0	278.4°	-147.4
ALC	Yuma	$\mathbf{A}\mathbf{Z}$	236	C	U	0.0	249.0	0.0°	-249.0
ALC	San Quintin	BN	236	В		299.8	237.0	211.9°	62.8
ALC	Tecate	BN	237	В		217.1	164.0	266.6°	53.1

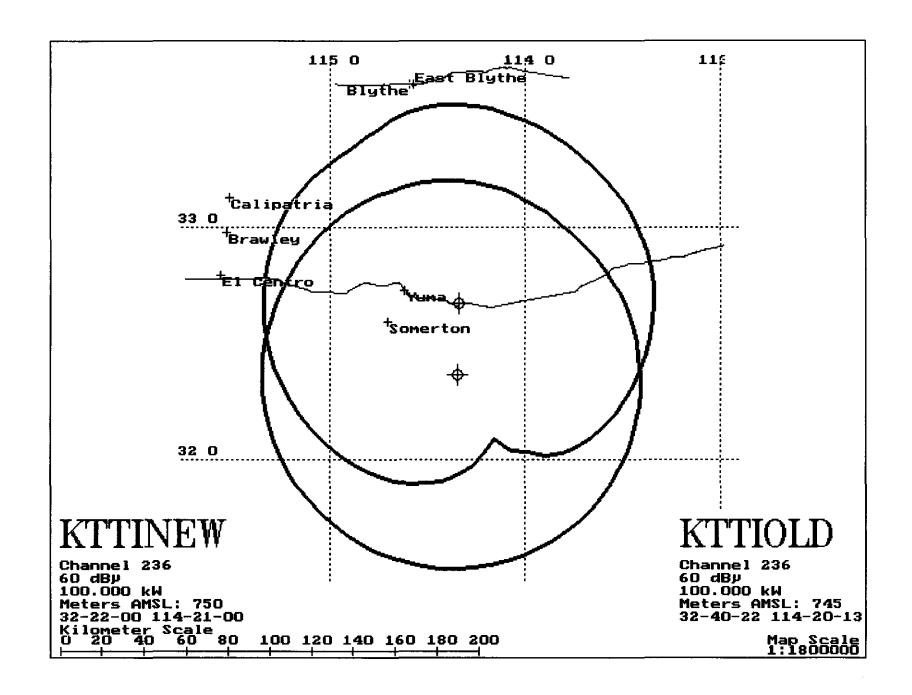
PRORM Sun City West AZ 236 C 271.8 249.0 49.1° 22.8 CLEAR

## **EXHIBIT E8B**

MAPFM search of channel 236C2 (95.1 MHz), at N. 32 42 42, W. 114 38 58.

YUMA, ARIZONA KTTI EXISTING OPERATING SITE CLASS C2 OPERATION

Search	ing Channel 236C2	(95.1	MHz)	) :						
CALL	CITY		st	CHN			DIST	SEPN	BRNG	CLEARANCE
ALC	Brawley		CA	233	В	U	84.0	74.0	277.3°	10.0
KWST	Brawley		CA	233	В	L	84.0	74.0	277.3°	10.0
KBZT	San Diego		CA	235	В	$\mathbf{L}$	244.0	169.0	273.3°	75.0
ALC	San Diego		CA	235	В	U	244.0	169.0	273.3°	75.0
$\mathtt{KTTI}$	Yuma		AZ	236	C3	L	0.0	177.0	0.0°	-177.0
KFRG	San Bernardino		CA	236				241.0		
ALC	Yuma		AZ	236	C	U	29.6	249.0	98.4°	-219.4
ALC	San Bernardino		CA	236	В	U	295.4	241.0	303.9°	54.4
ALC	San Quintin		BN	236	В		289.4	237.0	206.3°	52.4
ALC	Tecate		BN	237	В		188.3	164.0	264.5°	24.3
ALC	Mexicali		BN	290	Α		75.1	14.0	266.4°	61.1
XHSUFM	Mexicali		BN	290	Α		75.1	14.0	266.4°	61.1
PRORM	Sun City West		ΑZ	236	С		291.8	249.0	53.5°	42.8 CLEAR



MAPFM search of channel 236C (95.1 MHz), at N. 32 40 22, W. 114 20 13.

## YUMA, ARIZONA NEW CLASS C REFERENCE POINT CLASS C OPERATION

Search:	ing Channel 236C	(95.1	MHz)	:							
CALL	CĬTY				CL	S	DIST	SEPN	BRNG	CLEARANC	Ε
ALC	Brawley		CA	233	В	U	113.6	105.0	277.6°	8.6	
KWST	Brawley		CA	233	В	L	113.6	105.0	277.6°	8.6	
KBZT	San Diego		ÇA	235	В	L	273.5	217.0	273.9°		
ALC	San Diego							217.0			
ALC	Tucson								98.8°		
KMXZFM	Tucson								98.8°		
KTTI	Yuma								278.4°		
KFRG	San Bernardino							274.0			
KFMR	Winslow		AZ	236	С	C			45.8°		
ALC	Yuma		AZ			U			0.0°		
ALC	San Bernardino		CA	236	В			274.0			
KFMR	Camp Verde			236			365.2	290.0	45.8°		
ALC	San Quintin							270.0			
ALC	Tecate		BN	237	В		217.1	215.0			
ALC	Caborca		SO	237	С		301.2	228.0			
ALC	Mexicali			290				28.0			
XHSUFM	Mexicali		BN	290	Α		104.2	28.0	269.9°	76.2	
CT.ASS (	UNDER 73.215 SE	ACTNG									
			7. 17	226	~		271 0	270 0	40 10	1001	
PRORM	Sun City West		AZ	236			2/1.8	270.0	49.1°	1.8 CLE	7K

MAPFM search of channel 236C (95.1 MHz), at N. 34 25 0, W. 112 0 30.

KFMR MAYER, ARIZONA CLASS C REFERENCE POINT

Searching Channel 236C (95.1	MHz):		
CALL CITY	ST CHN	CL S DIST SE	PN BRNG CLEARANCE
ALC Phoenix	AZ 233	C U 120.2 105	.0 182.4° 15.2
KOOLFM Phoenix	AZ 233	C L 120.2 105	.0 182.4° 15.2
ALC Tucson	AZ 235	C U 254.4 241	
K235AI Mayer	AZ 235	D C 38.7 0	.0 238.5° 38.7
KMXZFM Tucson	AZ 235	C L 254.4 241	
FA Winslow	AZ 236	C D 137.7 290	
KTTI Yuma	AZ 236		
ALC Winslow	AZ 236		
KFMR Winslow	AZ 236		
ALC Yuma	AZ 236		
KFMR Camp Verde	AZ 236		
K237AU Prescott	AZ 237		.0 279.4° 49.3
KYOTFM Phoenix	AZ 238		
ALC Phoenix	AZ 238		_
ALC Cottonwood			
KVRDFM Cottonwood			
KHOTFM Paradise Valley	AZ 290		
ALC Paradise Valley	AZ 290		_
KHOTFM Paradise Valley	AZ 290	C3 L 94.7 31	.0 166.0° 63.7

COMPUTED DISTANCE TO CONTOURS (PART 73)

## MAYER, ARIZONA CLASS C REFERENCE POINT

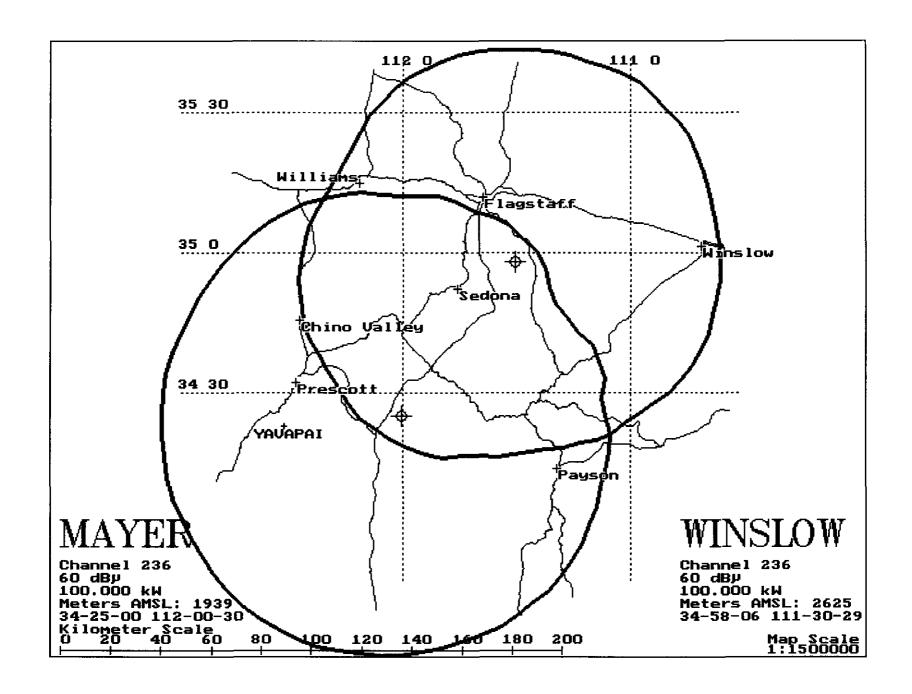
Transmitter Latitude: 34:25:00.0N Longitude: 112:00:30.0W Transmitter center of radiation: 1939.0 m AMSL ( 600.00 m AGL) Power: 100.000 kW Channel 236

		Horizontal			f(50,50)	f(50,50)
Azimuth	HAAT	Relative	Equiv	Rough	60.0 dBu	70.0 <b>d</b> Bu
(Deg T)	(m)	Field	Power	Correct	(km)	(km)
.00	500.96	1.000	100.000	.000	86.78	62.25
45.00	427.76	1.000	100.000	.000	81.81	57.81
90.00	434.66	1.000	100.000	000.	82.31	58.20
135.00	580.74	1.000	100.000	.000	91.06	66.87
180.00	714.49	1.000	100.000	.000	96.23	71.92
225.00	789.27	1.000	100.000	.000	99.16	74.40
265.00	725.66	1.000	100.000	.000	96.67	72.31
270.00	724.25	1.000	100.000	.000	96.61	72.26
315.00	626.45	1.000	100.000	.000	92.82	68.69

599.82 m Cardinal Average

Pop: F(50,8 **km2**: Pop: 6325

# EXHIBIT E13



#### **CERTIFICATE OF SERVICE**

I, Lisa M. Balzer, a secretary in the law firm of Shook, Hardy and Bacon, do hereby certify that I have on this 23rd day of August, 1999 caused to be mailed by first class mail, postage prepaid, copies of the foregoing "COMMENTS AND ALTERNATE PROPOSALS" to the following:

\* Ms. Nancy V. Joyner
Federal Communications Commission
Mass Media Bureau
445 12th Street, SW
Room 3-A267
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